## I. Introduction

In March 1999 the Board of Education adopted a revised Integrated Pest Management (IPM) program. This procedure manual has been developed to reflect the revised IPM policy.

IPM as defined in the District policy is as follows:

"*Integrated Pest Management (IPM) is the coordinated use of pest and environmental information with available pest management methods to prevent unacceptable levels of pest damage by the most economical means, and with the least possible hazard to people and the environment. The goal of the IPM approach is to manage pests and the environment so as to balance costs, benefits, human health and environmental quality. IPM systems utilize a high quantity and quality of technical information on the pest and its interaction with the environment (site). Because IPM programs apply a holistic approach to pest management decision-making, they take advantage of all low risk management options, emphasizing natural biological methods, and the appropriate use of selective pesticides. IPM strategies incorporate environmental considerations by emphasizing pest management measures that minimize intrusion on natural bio-diversity ecosystems. Thus, IPM is:*

- *A system utilizing multiple methods*
- *A decision-making process*
- *A risk reduction system*
- *Information sensitive*
- *Biologically based*
- *Cost effective*
- *Site specific.*

Implementation of the pest management policy is a challenging and rewarding endeavor to reduce and eventually eliminate the use of pesticides in all school environments. Everyone involved with the District including teachers, students, parents, principals, administrators, and maintenance and operations staff, has a role in the implementation and the responsibility to maintain the level of pest management attained through this program. The goal is to keep pest levels at or below the established threshold level as described in this manual and thus reduce the risk from pest presence and damage, without the potential risk from the means used, particularly pesticides, to manage pests. A comprehensive, concerted effort by all involved will achieve this goal in a relatively short time. This procedure manual will serve as a guide to accomplish this task.

## II. Background

The District's Integrated Pest Management (IPM) Development team was chartered by the Board of Education's School Safety and Campus Environment Committee to develop a revised policy to regulate and reduce the use of pesticides in schools. The team included representatives from several Los Angeles Unified School District departments

including the Maintenance and Operations Branch, Child Development Division, the Environmental Health and Safety Branch, the Food Services Branch, and the Office of School Operations. In addition, community, labor and regulatory representatives from the Los Angeles Safe Schools Coalition, Action Now, Physicians for Social Responsibility, Pesticide Watch, Local 99 of the Service Employees International Union (SEIU), United Teachers Los Angeles (UTLA), 10th District PTA, State of California Department of Pesticide Regulation and the Los Angeles County Health Department participated. The District, upon the recommendation of team members, retained Mr. William E. Currie, an Integrated Pest Management expert, for independent advice and counsel. Mr. Currie also serves as a team member.

## III. Purpose

The revised Integrated Pest Management policy charts a course for the immediate reduction and planned elimination of chemical pesticide and herbicide usage within the Los Angeles Unified School District. Implementation of this policy is seen as a valuable component in ensuring the health and safety of students and staff.

Successful implementation of this policy will require thorough training of Maintenance and Operations and Food Services Personnel. An intensive information program will also be necessary for school administrative and teaching staff. Training and information will include a ban on personal pesticide use in schools, limiting food to designated areas, and continuing to restrict purchase and application of pesticides to District pest management staff who are licensed and authorized to do so. Additional resources will enhance sanitation methods and procedures in the school cafeterias. An increase in gardening personnel will reduce herbicide use, as more weeds will be manually removed. Due to the size of the District, full implementation of the IPM policy is expected to take a minimum of three to four years.

## IV. Policy

It is the District's policy to practice Integrated Pest Management (IPM). All aspects of this program will be in accordance with federal and state laws and regulations, and county ordinances. All District policies must conform to this IPM policy.

The District's goal is to provide for the safest and lowest risk approach to manage pest problems while protecting people, the environment and property. Pests must be managed to protect the health and safety of students and staff, maintain a productive learning environment and maintain the integrity of school buildings and grounds. The District's IPM policy incorporates a focus on long term prevention and will give non-chemical methods first consideration when selecting appropriate pest control techniques. The District will strive to ultimately eliminate the use of all chemical controls since pesticides pose risks to human health and the environment, with special risks to children. It is recognized that pesticides cause adverse health effects in humans such as cancer, neurological disruption, birth defects, genetic alterations, reproductive harm, immune system dysfunction, endocrine disruption and acute poisoning.

The District's long-term objective includes meeting the "precautionary principle" which states that:

a) No pesticide product is free from risk or threat to human health, and

b) Industrial producers should be required to prove that their pesticide products demonstrate an absence of the risks enumerated in paragraph two of the policy statement rather than requiring that the government or the public prove that human health is being harmed.

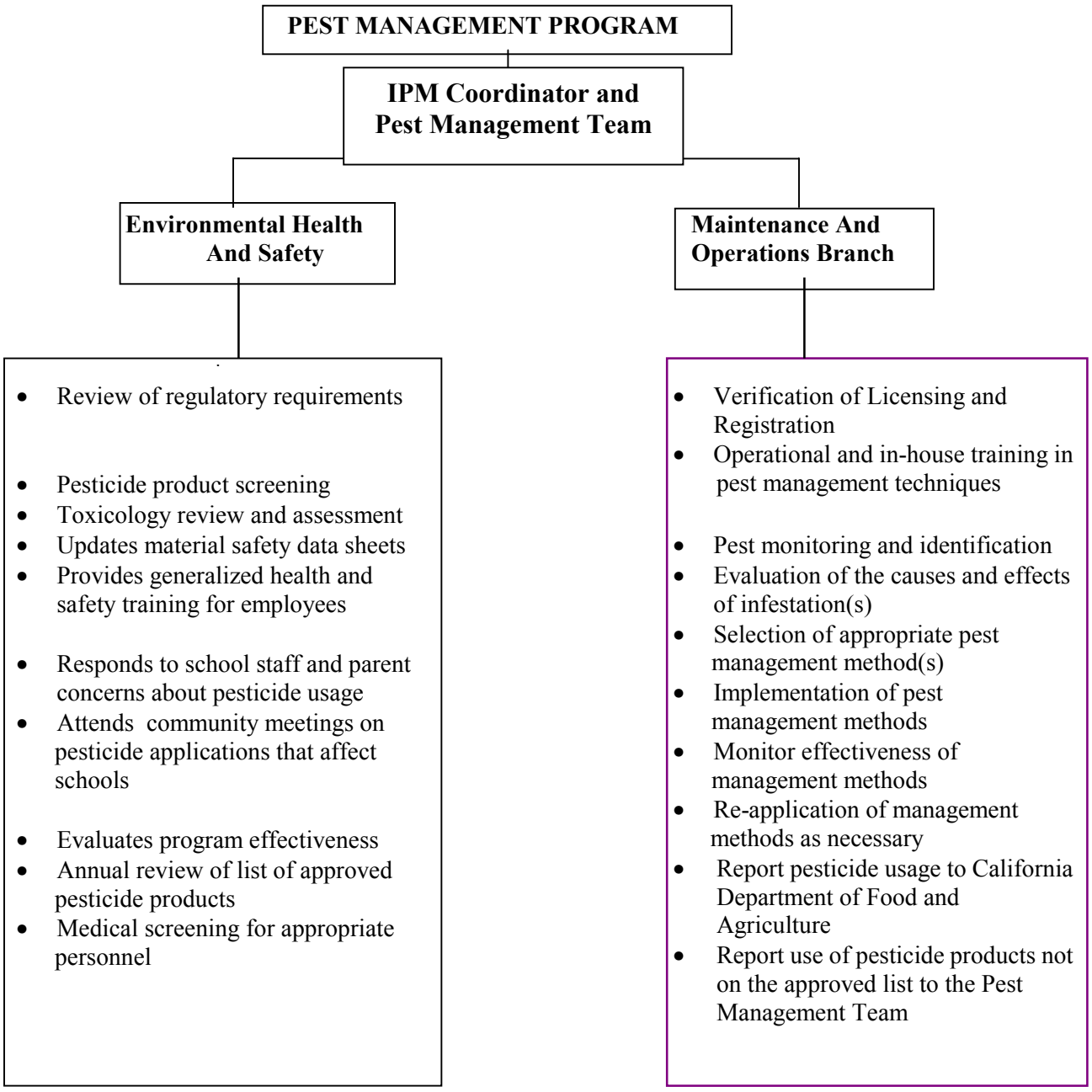
This policy realizes that full implementation of the precautionary principle is not possible at this time and may not be for decades. But the District commits itself to full implementation as soon as verifiable scientific data enabling implementation becomes available.

## V. Organization

### A. General Responsibilities

The Los Angeles Unified School District designated the Maintenance and Operations Branch and Environmental Health and Safety the responsibility for carrying out the Pest Management Program requirements. Figure 1 below summarizes the program responsibilities and activities.

**FIGURE 1**: Integrated Pest Management Program Responsibilities of Environmental Health and Safety and the Maintenance and Operations Branch.



## B. Integrated Pest Management Coordinator

The Integrated Pest Management Coordinator is the person responsible for implementation of the District's Pest Management program. District management will select this person from the ranks of existing staff. The Integrated Pest Management Coordinator will assume the following responsibilities:

1. Be knowledgeable of the components of the Los Angeles Unified School District Integrated Pest Management policy and this manual.
2. Keep up to date with the current programs and techniques used in Integrated Pest Management by attending workshops, conferences, and seminars.
3. Pass on information about the Integrated Pest Management program to site administrators, plant managers, and maintenance and operations managers.
4. Act as the primary contact for staff and the public about the Integrated Pest Management program.
5. Understand what is expected of the Pest Management Unit. Inform the Pest Management Unit of any problems or complaints from the school sites.
6. Ensure that recommendations from the Pest Management Unit for preventative action (such as keeping kitchen areas clean) are acted on through communication with appropriate management contacts.
7. Chair regular Pest Management Team meetings to discuss pest management plans with the committee members, and vote on proposals for changes.
8. Maintain a list of the pesticides used in the course of business within the Los Angeles Unified School District and the Material Safety Data Sheets (MSDS) for these products. This list will also be referred to as the "approved products list."
9. Insure that the Pest Management Unit keeps appropriate records of each pesticide application. The following information shall be included in the application records:
    a) Target pest
    b) Type and quantity of pesticide used
    c) Site and building within the site
    d) Date
    e) Name of applicator

    This information will be maintained in the Pest Management Unit and available for review upon request.
10. Maintain a file of the sanitation reports and any other pertinent pest management records by school site. These records will be maintained in the Pest Management Unit and available for review upon request.

## C. Pest Management Team Members

The Pest Management Team will be comprised of fifteen (15) independent members, including:

The District IPM Coordinator
One District non-management representative from Maintenance and Operations

One District representative from the Environmental Health and Safety Branch
One District representative from the Food Services Branch
One independent IPM expert
Two parents of District-enrolled students
Two community members
One public health representative
Two environmental representatives
One District teacher
One District principal
One medical practitioner

The Board of Education's Facilities Committee must approve all assignments to the Pest Management Team by a simple majority of all members. Selection of the initial Pest Management Team nominees was the responsibility of the groups whose members participated in and attended at least two (2) of the Policy Development Committee meetings. Thereafter, a member of that slot's constituency will submit nominations to the Pest Management Team to fill vacant positions. Pest Management Team membership will be solicited through the Spotlight, recognized parent and teacher's organizations, unions and through notification and outreach to other independent community groups. Nominations will be screened by the Pest Management Team, then submitted to the Facilities Committee for approval at a public meeting.

Pest Management Team members will be randomly divided into two (2) classes of seven (7) and eight (8), comprised as closely as possible of equal numbers of District staff and non-District staff Pest Management Team member constituencies. The seats of the first class shall be vacated after the expiration of the second year; of the second class at the expiration of the third year, so that approximately one-half may be chosen every year. If vacancies happen by resignation or otherwise, the Facilities Committee may make appointments to fill the vacated seats consistent with the fifteen (15) constituency groups. With the exception of the first team of the second class, Pest Management Team terms will be two years.

## D. Decision Making Process

The Pest Management Team will provide guidance and verification regarding procedures, program implementation, and will recommend resolutions when this policy conflicts with other District policies. A quorum of ten (10) members must be present to convene a meeting. Decisions will be made by a simple majority of all Pest Management Team members voting at meetings. The Pest Management Team will decide the frequency of team meetings.

## E. Pest Management Objectives

As stated above, pest infestations will be managed to a level that they do not adversely affect the learning environment or the health and safety of the students, staff or the general public. Action thresholds, a predetermined point at which action is taken to reduce a pest population, will be determined by:

a) visual inspection
b) monitoring areas with methods such as glue traps, and follow up inspection

Pest reduction actions include sanitation, elimination of harborage areas, and moisture management. These actions will reduce pest population as the sources of food, water and shelter are eliminated.

Food handling areas generally have the highest priority for action on a school campus due to health concerns associated with pest infestations. These areas include kitchens, serving areas, student and faculty dining rooms, outdoor lunch pavilions, and home economics classrooms. Some school sites may also operate a student store where food items are stored and sold.

The second highest priority is classrooms and other occupied areas on the school campus. Infestations in these areas may cause safety and health concerns, and may also be disruptive to the learning environment. Outdoor areas are generally the lowest priority for pest management concerns, although priorities may change depending on the level of risk a pest represents in any given area. For instance, bees and fleas pose health risks to students and would therefore demand higher priority. Pigeon and other bird infestations cause unsanitary and unhealthy environments, and would also represent a high priority pest problem.

## F. Designating Pest Management Roles

The concepts and methods of Integrated Pest Management were developed originally in agricultural settings. Later it was found that Integrated Pest Management had great value in urban pest management as well. The interactions between the people involved in the Los Angeles Unified School District pest management system are the key to the success or failure of the program. When the respective roles of all persons identified and agreed upon, and when these people communicate well with each other, effective protection of the sites and people can be achieved with reduced risk.

For the District's pest management systems to be successful, people must function effectively as occupants, pest managers or decision-makers. Each must gain the information they need, provide the information others need, cooperate with each other, and fulfill their special responsibilities to achieve the unique pest management objectives of the site. These functions and responsibilities are identified below.

### 1. The Occupants: Students, Staff, and Parents

Occupants are concerned about the safety of the pest management methods used and their effectiveness. School staff, students, and their parents will receive verification as required under the policy and shall receive specialized training in accordance with the language of the policy. They should also receive information regarding their role in the pest management system.

### a. Sanitation and Elimination of Pest Harborage

The most important responsibility of the occupants (students and staff) is sanitation. Extremely small amounts of crumbs, grease or water can meet the food and water needs of most pests for many days or weeks. Much of the prevention and reduction of pest infestations depends on clean up of food leftovers, food in lockers, gum under desks, paper clutter, proper housekeeping, and performing good maintenance. Kitchens, where food is prepared, and dining rooms where food is consumed, are particularly vulnerable to pest infestation. Special attention should be given to cleaning cooking utensils and appliances after each meal, and storing food in pest-proof containers. Food supplies should be rotated first in first out. Food and standing water should not be left out overnight. All spaces should be thoroughly cleaned and vacuumed, and wet garbage and other trash removed from the premises often.

### b. Observation and Early Detection of Problems

Since school occupants spend a great deal of time at their site, they should be aware of signs indicating the presence of pests. These signs must be noted and reported to the person on site responsible for reporting Maintenance and Operations needs. At most sites, this will be the Plant Manager. This person will call the trouble call desk at (213) 763-2906. The trouble call operator will forward the request to the Pest Management Supervisor, who will help in the detection and control of pests. Signs of infestation include live or dead insects, rodents, holes in paper or cardboard food containers, brown spots in corners of cabinets or woodwork, gnawing or scrambling sounds in the walls, "salt and pepper" droppings, fine sawdust piles, or olive-pit shaped droppings.

Other actions such as cleaning and limiting where food is stored and consumed may be required of or be undertaken by District students and staff, depending upon interest in the site, interest in the pest management system, and the nature of the assistance required at the site. The more that school occupants "buy in' to the Integrated Pest Management program at their school site, the better the system will work.

## 2. Parents Have a Special Role in the Integrated Pest Management Process

Parents have the most responsibility for their children and they are their children's natural advocates. Thus, they can bring the need to reduce dependence on pesticides to the attention of school personnel, and they can assist greatly in the transition to an Integrated Pest Management program.

Parents' first school pest management responsibility is to learn about and follow Integrated Pest Management practices at home so that pests are not carried to school in notebooks, lunch boxes, clothing or in the children's hair. Second, parents should be aware of the current pest management practices in their children's school. The school administration should welcome questions by the parents and encourage the parents to seek information. Visible interest and concern on the part of the parents is a valuable

resource and stimulus for the implementation of the District school Integrated Pest Management program. Parents should express their views to the site Administrator and/or the Pest Management Unit. Parents may also participate on the District's Pest Management Team.

## 3. Managing the Pests: The Pest Manager

The District's Integrated Pest Management Coordinator is responsible for the overall supervision and oversight of the pest management system. However, the Operations Program Coordinator and the Pest Management Supervisor are the people who observe and evaluate (or direct others to do so) the extent of the pest infestation and the site environment, and decide how to achieve the site management objectives. The Pest Management Supervisor designs a pest management system that takes into account applicator and occupant safety, effectiveness, customer or occupant concerns, potential liability, time required and costs. The Pest Management Supervisor also performs the necessary pest management actions or directs others to take action.

The Pest Management Supervisor draws on knowledge gained through training, experience, and information from communication with the site-based staff. The Pest Management Supervisor uses information on the site environment, the pest and its biology, occupant health and concerns, appropriate control measures, and expected results.

### a. Response to Occupant Pest Observations

Occupants have the means to report any signs of pest activity. Notify the person on site responsible for reporting Maintenance and Operations needs (usually the Plant Manager). This person will contact the trouble call desk (213-763-2906) and the Pest Management Supervisor will assign a Pest Management Technician to respond quickly to such observations upon receipt of the trouble call.

### b. Communication between Pest Managers and Occupants

Good communication, both oral and written, plays a vital role in the success of an Integrated Pest Management program. Communication between pest management technicians and occupants will help to solve pest problems more effectively.

Oral communication begins with the report of the pest problem to the pest management technician. The occupant should report the pest problem as accurately as possible, so the pest management technician has a clear understanding of the issues when he/she arrives at the school site. The occupant should give the following information when reporting the pest problem:

- Location code of the site with the pest problem.
- Specific location(s) on the school site where the pest has been a problem.
- The type of pest (if known).

- The severity of the infestation.
- The priority of the call (emergency, urgent, or routine).
- A contact person for the technician to see.

Although the location code of the school site is basic information, an incorrect location code reported with the pest control call will result in delayed service. Specify the proper and accurate location code when the call is originated. Sometimes two or more locations share the same site, and use different location codes. In this case, be certain that the appropriate location code is used.

Give specific areas of the school site where the pest has become a problem. Give room numbers or name the areas affected (café, auditorium, main office, etc.). Do not report that the entire school is experiencing a pest problem. The pest management technician can solve the pest problem more efficiently if the area of concern is narrowed down to a specific location.

Specify the type of pest creating the problem. Be as specific as possible. For example, "a pigeon infestation in the outside lunch area" is more descriptive than "birds outside." If the caller knows the species of the pest, this information is helpful to the technician. With better information prior to visits to the site, the pest management technician is more likely to have the proper tools and materials available to solve the problem.

Give an accurate description of the priority this call should receive. "Emergency" calls are reserved for situations that cause immediate danger to students or staff members. Some emergency situations include bee swarms, snakes, rodents observed in food service areas or classroom areas, and dead animals under buildings. "Urgent" situations may include problems that disrupt the learning environment in a classroom or pose an immediate obstacle in the daily functions at the school site. "Routine" calls include pest infestations that do not pose any immediate threat to safety or health, and are not causing major program disruption.

Communication from the pest management technician to the occupants normally begins upon visitation to the school site. The primary communication will be with the person designated on that site as the contact person in the pest control trouble call. However, pest management technicians will visit the main office and speak with the site administrator during each visit, if the administrator is available.

Initial communication will determine the specifics of the pest management problem. Key information needed by the pest management technician includes where the problem is located, who is involved, cultural factors involved, and environmental conditions present that cannot be easily observed. This communication should start prior to inspection of the premises.

In food service areas, the pest management technician will also review the pest-siting log, maintained by the cafeteria manager.

After inspection of the problem area, the pest management technician will communicate his/her findings with the site designee and/or the site administrator. This communication will include the following:

- What pest problems are present at the designated areas.
- What steps the school site staff need to take to help prevent or eradicate the pest problems. This may include sanitation, restricting eating areas, elimination of harborage areas, and maintenance items.
- Behavioral practices including eating, storage, and sanitation routines that may adversely affect Integrated Pest Management efforts.
- Recommendations on correction of any of the above items, and recommendations for exclusion work to restrict access by pests and prevent future infestation.

After verbally communicating these items to the administrator and/or the administrator's designated person, the technician will provide an inspection report to outline the problems and recommended solutions. The recommendations will include any structural, sanitation, and chemical methods necessary to solve the problems. The pest manager will assist the school administration by making necessary trouble calls to maintenance for repairs needed to improve moisture management, sanitation, pest exclusion, and modification or elimination of harborage areas. Mechanical methods, monitoring for pest activity, exclusion work, and pesticide treatments to be performed by the Pest Management unit will also be scheduled at this time as needed.

Prior to leaving the site, the pest management technician will note all Integrated Pest Management related work performed on the Integrated Pest Management log in the main office. This log will be kept current. The pest management technician will review the Integrated Pest Management site log on each visit to determine if follow-up is necessary on previous work, to determine the effectiveness of the action taken at the site, and to insure that proper notifications and posting have been made, as required under the IPM policy.

### c. Inspect and Monitor the Sites

Pest management staff will routinely inspect all cafeteria or food service sites and take appropriate pest management actions on a quarterly basis. In addition, the Pest Management Supervisor will assign a Pest Management Technician to respond to occupant observations by conducting a thorough inspection of the environmental conditions of the site. This inspection will reveal how the site provides the biological needs (food, water, shelter) for pest populations, where pests are located, and the size of the pest population. Monitoring of the area will also help the technician determine the size, type, and extent of the pest population on the site.

### d. Identify the Pest(s)

The Pest Management Technician identifies the pest (to species, if possible) and determines the necessary sanitation and exclusion methods, and biological and physical methods that can be used to achieve the pest management objectives.

### e. Identify Preventive Measures

School occupants will be advised of their responsibilities in pest management, including vacuuming, sanitation, removal of clutter, handling wet garbage, food storage methods, and other cultural means to remove what pests need to survive in the site.

### f. Make Recommendations

Some necessary actions to be taken, such as repair of leaks and exclusion measures may not be the responsibility of the Pest Management Technician. The Pest Management Technician will write recommendations for necessary repairs or exclusion to the Maintenance and Operations Area responsible for the site. The Maintenance and Operations Area will then respond to the repair request.

### g. Manage the Pests

The Pest Management Technician should take whatever physical means are needed to manage the site's environment and pest populations, which may include the use of a low risk pesticide if necessary.

## VI. Pesticide Product Use

### A. Approval Process

The Pest Management Team, following a careful review of contents, precautions and low risk methods, must first approve products for routine use in the Los Angeles Unified School District. These approved products comprise the Approved List.

Purchasing of pesticides to be used on Los Angeles Unified School District property or sites requires the approval of the IPM Coordinator. Only District licensed pest management staff is authorized by the IPM Coordinator to bring or apply pesticides on the District sites or property; no site-based employees are permitted to bring or apply pesticides on District property.

Products will be divided into two classifications:

1) Products approved by a simple majority of all the members of the Pest Management Team members at team meetings for use at the discretion of the pest management technician within the guidelines of this IPM program. This will be referred to as the "Approved List." Products on the approved list will adhere to the "Pest Management Methods and Product Selection Guidelines."
2) Use of products other than those on the approved list requires the written approval of the IPM Coordinator and the team's independent IPM expert when reduced risk methods are unsuccessful. Information on the use of products not on the approved list will be provided to the Pest Management Team so that these

pesticide applications may be reviewed on a case-by-case basis at the next scheduled Team meeting.

## B. Pest Management Methods and Product Selection Guidelines

Pest management methods and product selection will be based on the following principles:

- In embracing the Precautionary Principle, the District will use only those pest management methods or products demonstrated to be the safest and lowest risk to children, and strive to use products that demonstrate an absence of the following health effects: cancer, neurological disruption, birth defects, genetic alteration, reproductive harm, immune system dysfunction, endocrine disruption and acute poisoning.
- In those instances where pesticides fall outside of these specific guidelines, the District's decisions on pest management methods or product selection will conform to the spirit and intent of this policy and these guidelines.
- The District will use only those pest management products that can be applied in a manner and at a time where no person will inhale or come into direct contact with them, or be exposed to volatile agents.
- The approved list and categories listed below will be reviewed and approved annually by the Pest Management Team.

Only products that fall within the following categories will be placed on the approved list:

- Insecticide or rodenticide baits and traps
- Caulking agents and crack sealants
- Borates and sillicates
- Soap based products
- Products on the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) 25(b) list [40 CFR 152.25 (g)(1)] or the California Certified Organinc Farmers' organic list
- Cryogenics, electronic products, heat and lights
- Biological controls such as parasites and predators
- Microbial pesticides
- Insect growth regulators
- Physical barriers

## C. Notification, Record Keeping and Reporting

The District will notify parents, employees, and students of all pesticide applications using the following guidelines:

## 1. Annual Notification

The District will provide annual notification to parents or guardians in the "Registration Packet" distributed at the beginning of each school year or upon enrollment. Notification will include:

- The IPM policy statement
- The approved product list **(see Appendix D)**
- The availability of IPM activity records in the Main Office of each school **(see Appendix E)**
- A request that parents or guardians notify the school principal if their child's health and/or behavior would be influenced by exposure to pesticide products
- A mechanism by which parents or guardians can request notification of all pesticide applications performed at the school site **(see Appendix F)**

## 2. The Approved Product List

The approved product list will be conspicuously posted annually in the main office of each site and remain posted throughout the year.

## 3. Products Not On The Approved List

Applications of products not on the approved list will be preceded by a 72-hour notification to parents or guardians and school staff, except for emergencies as determined by the IPM Coordinator and the team's independent IPM expert. In emergency situations, every effort will be made to give prior notification. Notification will include:

- The product name and active ingredient(s)
- The target pest
- The date of pesticide use
- The signal word indicating the toxicity category of the pesticide
- A contact source for more information
- The availability of further information at the school's main office.
- The Pest Management Supervisor will maintain records to inform the Pest Management Team of the use of products not on the Approved List.

## 4. 72-Hour notification for use of Pesticides not on the Approved Product List

If pesticide products are to be used that are not on the approved product list, the following rules apply to their use:

- Pest Management Technician will consult with the Pest Management Supervisor prior to application to obtain approval to use "non-approved" pesticides.

- Post notices as required at the school site, including:
    a.) "Pesticide Application Posting" notice. This notice shall be posted on the school site in the area of application every time a non-approved pesticide will be used on the school site. For non-emergency applications, this notice will be posted at least 72 hours before the application. In emergency situations, the notice shall be posted as early as possible. Notice will remain posted on site for five (5) half-lives of the product used.
    b.) Additional notifications are required as follows:
        1.) 72-hour Notification of Pesticide Use (Product not on the Approved List). This document must be sent home with students at least 72 hours before application of a non-approved product, for non-emergency applications. The Pest Management Technician shall provide the notification to the site administrator for distribution to the students and staff in a timely manner, to ensure that the 72-hour notification is achieved. **(see Appendix I for sample of 72-hour notification)**
        2.) Site Activity Log. The Site Activity Log is a document maintained on each school site to record actions taken by the Pest Control Unit. The technician will make an entry in this log on every visit to the site, including the date, pest activity, action taken, reason, and the technician's name. This site activity log will be maintained in the main office of each school site.

The pest management system for the site should achieve the goals within the limitations posed by safety, time, budget and materials available. Pest Management Technicians monitor the site's environment and pest population to determine if actions taken are successful, and keep accurate records of any pesticides used, the amounts and treatment dates for each site.

## 5. Signs

Signs shall be conspicuously posted around any area where pesticides not on the approved list are to be applied in a non-emergency situation at least 72 hours before and for five (5) half-lives after any pesticide application. In the event of an emergency, posting will go up at the time of application, and shall include the information as indicated above. **(See sample sign Appendix H)**

For products on the approved list a warning sign shall be posted in the area of the facility or grounds where pesticides will be applied. The warning sign will include:

- The term "Warning/Pesticide Treated Area" prominently displayed
- The product name
- The signal word indicating toxicity category of the pesticide
- The manufacturer's name
- Active ingredient
- The United States Environmental Protection Agency's product registration number

- Intended date and areas of application
- Reason for pesticide application and target pest
- Date sign may be removed
- Contact phone numbers for additional information

The warning sign shall be visible to all persons entering the treated area and shall be posted 24 hours prior to application and remain posted until 72 hours after application.

### 6. Provide Risk Communication

The Pest Management Supervisor will communicate any potential risk from the pest or pesticide use to the occupants and the school administrator, or designee. This communication includes the following:

- An approved pesticide list. This is a list of pesticide products approved for use by the Pest Management Technicians. The approved list is distributed annually in school registration packages, and is posted in the main office.

- Pest Management Technicians will consult with the site administrator or the administrator's designee prior to any pesticide application.

## VII. Decision Makers

The Board of Education establishes the overall policy and funding for the Integrated Pest Management program. The Pest Management staff, under the guidance of the Integrated Pest Management coordinator is responsible for the implementation and administration of the Integrated Pest Management policy and for making decisions regarding the appropriate methods to manage pest problems. Requirements by others, such as the Los Angeles County Health Department, may impact decisions. In addition, concerns about health, safety, method effectiveness, liability, cost and customer or occupant satisfaction impact decisions. As previously noted, the Pest Management Team's role is to provide guidance and verification regarding procedures and program implementation, and to recommend solutions when the Integrated Pest Management policy conflicts with other District or regulatory policies.

The Integrated Pest Management Coordinator and support staff must determine if the pest management objectives are being met and if the Pest Management Technicians are performing at an acceptable level through monitoring complaints from site occupants, observation of the site environment, or by a combination of both. If not, the Pest Management Team should assist the Coordinator with development of recommendations for changes in policy, procedures, and/or funding necessary for the Integrated Pest Management program to succeed.

The decision-makers increase the chances of implementing a successful Integrated Pest Management program by performing the following:

Developing a pest management plan. The site administrator and pest management staff should develop a pest management plan to resolve any given pest problem. The plan should include at least the eight steps of a successful Integrated Pest Management system as follows:

- Define roles of occupants, pest managers, and decision-makers.
- Set pest management objectives.
- Set pest management action thresholds.
- Inspection and monitoring of sites.
- Habitat modification.
- Appropriate low risk pesticide application.
- Evaluation of results.
- Good record keeping.

A good pest management plan will ensure the success of implementing Integrated Pest Management at a site.

Providing Maintenance Procedures. Proper maintenance of site buildings will eliminate opportunities for pest populations to develop. Routine maintenance includes leak repair, exclusion measures to keep pests out, and provision for timely garbage removal.

Recommendations of a professional pest manager. The pest management technician should be a professional who knows the biology and behavior of pests and will make recommendations for structural changes, repairs, and innovative approaches that will economically achieve long-term pest management without the risks of excessive pesticide use.

A great deal of understanding, cooperation and commitment from everyone in the system—students and parents, all school staff, managers, administrators, and the public—is needed for an Integrated Pest Management program to succeed.

## VIII. Educating Integrated Pest Management Participants

The District's Integrated Pest Management program includes a commitment to the education of the students and staff and to the parents of the students. Integrated Pest Management principles will be taught to staff including teachers, school nurses, cafeteria employees, housekeeping and administrative employees. All occupants must understand the basic concepts of Integrated Pest Management and who to contact with questions or problems. Specific instructions should be provided on what to do and what not to do. For example, staff should not bring and use pesticides on their own in the school. Pesticide applications, including pesticides purchased at a retail store, should only be made by designated District Pest Managers who are certified and licensed pesticide applicators. Educating and training staff to function within an Integrated Pest Management context is important to the success of an in-house Integrated Pest Management program.

NOTE: More specific training is required for the Pest Manager. Universities and State Cooperative Extension Services have the expertise to meet some Integrated Pest

Management training needs. There are also private organizations that provide Integrated Pest Management training.

## A. Training for Integrated Pest Management Participants

District personnel, students, and parents have roles and responsibilities in the Integrated Pest Management processes. Training of the participants is necessary to adequately familiarize each participant with the role and responsibility they will play in the success of the Integrated Pest Management program. Training will be specific to the job and/or responsibility of the participant, and will include Integrated Pest Management philosophy, pest identification, and pest risks. "Train the trainer" courses will be designed for supervisory employees who will be required to provide Integrated Pest Management training to staff.

Operational training will be provided on an annual basis for Integrated Pest Management participants. The type and amount of training provided is based on job classification, and will include principals, administrators, pest management technicians, gardeners, carpenters, electricians, floor covering installers, HVAC fitters, painters, plumbers, roofers, sheet metal workers, plant managers, area operations supervisors, cafeteria managers, teachers, students, and the community (PTA).

Pest management technicians and gardeners will receive an initial 40 hours of practical training on Integrated Pest Management practices as they relate to their respective duties. Pest management technicians will also receive specific product training as new products or methods are introduced. Annual refresher training for pest management technicians and gardeners will consist of four hours of practical training in Integrated Pest Management practices. This training will supplement routine monthly safety training.

Carpenters, electricians, floor covering installers, HVAC fitters, painters, plumbers, roofers, and sheet metal workers will receive initial two-hour training in Integrated Pest Management as it relates to their respective classifications. Annual one-hour refresher training will be provided the employees in these classifications.

Area operations supervisors and cafeteria managers will receive "train the trainer" instruction in Integrated Pest Management. This will consist of initial four-hour training, with two-hour annual refresher courses.

Plant managers will receive six-hour initial Integrated Pest Management training with annual four-hour refresher courses.

Principals, administrators, and teachers will be provided lectures and information handouts on their roles in Integrated Pest Management. Students will be given a written informative. The community, through the PTA, will be provided awareness training in Integrated Pest Management.

## B. Training Program for Pest Management Technicians

The practical pest management training for Pest Management Technicians will be more comprehensive than the training provided for other participants, as the training will focus on specific tasks that the technician performs routinely. This includes inspection of facilities, identification of insect species, exclusion techniques, sanitation, moisture management concerns, various pest management methods, notification, record keeping, establishing pest threshold levels, pest population monitoring and tracking of pest infestations. Practical training will be administered in both classroom settings and practical (on the job) training courses. This training will be scheduled as needed, through monthly training sessions.

Pesticide health and safety training includes classroom instruction on reading and understanding pesticide labels, health and safety hazards, personal protective equipment, safe work procedures, personal hygiene, emergency spill or contamination procedures, common symptoms of pesticide poisoning, emergency medical information, medical examination, and applicable laws and regulations. The pesticide health and safety training is an annual training.

The pesticide health and safety and operational training will be performed by a combination of the Pest Management Supervisor, industry experts, and Los Angeles Unified School District Health and Safety Officers.

# IX. Setting Pest Management Objectives for Sites

A pest management objective is like a road map for pest control. It tells what we are trying to accomplish (where we are going) and when we have done enough. The pest management objective should be as specific to the school site as possible, considering the occupants, conditions, pest problems and resources available.

Pest management objectives will differ among sites and must be considered before setting action threshold levels. For example, with an athletic field, the objective would be to maintain aesthetics as well as a specific type of playing surface; i.e., grass length. With ornamentals, the objective would be strictly aesthetic value. With structures, the main objective might be controlling damage caused by termites. Pest managers for schools and other sites should clearly identify specific objectives in pest management plans.

## A. Examples of Pest Management Objectives

"Manage pests that may occur on this site to prevent interference with the learning environment of the student; eliminate injury to students or staff; preserve the integrity of the school buildings or structures; and provide safe playing or athletic surfaces." Or:

"Manage termites that may occur in the site to prevent or minimize damage to buildings, using appropriate monitoring, remedial, and preventive methods that also minimize injury

or health risks to occupants or staff, and preserve the integrity of the site buildings and structures."

In managing pests to a level where they do not have adverse impacts upon health and property, "zero" pest presence may not always be possible. However, with the utilization of Integrated Pest Management principles and practices, very low levels (near zero) of pest presence can be achieved with reasonable expenditure of money, time and material.

Realistic tolerance for the presence of pests is relative to the risk posed by exposure to that pest. A rat in a classroom is not tolerable and requires immediate action. However, the fruit fly or termite does not pose a threat to life, and may not call for immediate action. Individual tolerance for certain pests should be considered in establishing thresholds for each pest.

## B. Setting Action Thresholds

An action threshold is a predetermined point at which action is taken determined by sensitivities of the occupants, and should reflect the pest management objective for the site. When pest populations exceed action thresholds, action should be taken to manage the pest. Precise recommendations or actions to achieve specific results are an essential part of an Integrated Pest Management program.

Specific recommendations for the management of the pest should be based on the evaluation of all available data obtained through monitoring. The presence of some pests does not in itself necessarily require pesticide action. An explanation of the risks and benefits of the pest and management methods will be discussed with the decision-maker(s) involved.

## C. Inspection and Monitoring

The identification of pests and the determination of the extent of infestation are vital steps in the District's pest management procedure. Eliminating the pest's desired habitat is another important step in Integrated Pest Management. Once the pests have been identified and the sources of their activity have been pinpointed, habitat modifications—primarily exclusion, repair and sanitation efforts—will reduce the prevalence of pests greatly.

An Integrated Pest Management program consists of a cycle of inspection, monitoring, evaluating, and choosing the appropriate method of pest management. Sites are inspected for evidence of pests, entry points, availability of food, water, and harborage, and estimating pest infestation levels. Monitoring the sites can determine whether the pest population is increasing or decreasing over time, the extent of infestation, and the size (approximate number) of the pest population. The information attained through monitoring is evaluated to determine whether the action threshold has been exceeded and what type of prevention methods should be performed.

School occupants' reports and observations of the site will also give the pest management technician an idea of the size of the pest population. An astute observation will provide signs or actual sightings of the pests for identification. On the basis of such information (to species, if possible) information can be obtained about the behavior and preferred habitat of the pest, and what methods will achieve management of the population.

All organisms have basic life needs including air, food, moisture, warmth, harborage, and environments that will meet these needs. Unfortunately, buildings and grounds are constructed and maintained in ways that provide pests with access and environments that encourage pests to remain and multiply. Further, occupants and staff sometimes do not keep kitchens and other spaces adequately clean, which can invite and support pest populations.

One of the primary goals of an effective pest management program is to identify realistic and economically sound ways to eliminate those elements pests need for survival. Deny harborage, food and water to pests and those that enter the environment will not thrive. Neglecting any of these methods strengthens the pests' ability to survive and flourish.

## 1. Who Monitors for What Conditions

Occupant observations and reporting. The school occupants, (teachers, students, and staff) are in perhaps the best position to observe pests that occur within the school. Observations of pests, or their damage should be reported to the person on site responsible for reporting maintenance and operations needs. This person should call the trouble call desk at (213) 763-2406 to allow the Pest Management Supervisor to conduct an inspection and monitor the location and extent of the pest population, and determine the corrective actions to be taken.

A pest activity log form will be provided to all schools to note pest siting. This log shall be maintained in a notebook in the main office for review by the Pest Management Technician on subsequent visits to the site.

Maintenance Observations and Reporting. While performing inspections or repairs, the maintenance staff also has opportunities to observe the presence of pests or the results of their activities. These observations should be reported to the Pest Management Supervisor to assign a technician to conduct a thorough inspection. Upon inspection and evaluation of the situation, the technician can plan a course of action necessary to eliminate the problem. Maintenance observations should also be recorded in the site activity log.

Pest Management Technician's Inspections and Observations. The Pest Management Technician should schedule periodic inspections at each site to determine that sanitation standards are maintained and to detect any environmental conditions that may be conducive to the presence of pests. Inspection and monitoring in an Integrated Pest

Management program are the most important functions of the Pest Management Technician.

Conditions That Support Pests

Moisture. Water is a basic element of life. Elimination of leaks, condensation, and other moisture sources will reduce pest infestation and damage.

Food. Although many insects can go without feeding for a long time (weeks or months in some cases), eliminating access to food will reduce their number. Thus, keeping food in pest-proof containers, good sanitation, and exclusion are important aspects of controlling pests.

Shelter. Small, concealed and protected places that insects and other pests can use may provide shelter and harborage. Preventing access to these shelters by caulking or other exclusion methods will reduce available shelters. The Pest Management Technician should notice conditions that provide shelter to pests so action can be taken for their elimination.

Temperature. Most organisms have a relatively narrow range of temperatures within which they can function. Low and high temperatures can be lethal to insects, whereas temperatures between 65F and 90F enable insects to function well and reproduce rapidly. Observing temperature ranges can indicate potential pest growth rates.

Light. Many insects and other pests are active in the absence of light. Thus, the presence or absence of light can be a pest management tool. Observation of light conditions and placement of light can give clues to pest presence or potential.

## 2. Inspection and Monitoring Methods

"Inspection and monitoring" includes the initial site survey and subsequent ongoing surveillance by the Pest Management Technician to determine the presence and harborage of pests, as well as the physical and human factors to decide what action and treatment measures are needed to reduce key pests to a manageable level.

To inspect or monitor effectively, the Pest Management Technician conducting the inspection must have proper monitoring tools, including a flashlight, a clipboard, pen and paper to record and diagram information, a pocket knife, a screw driver, and a hand lens to examine pests, pest droppings, exoskeletons and damage found. In addition, the Pest Management Technician should have a ladder available to access equipment, ceilings, attic spaces and otherwise inaccessible areas for inspection purposes. Additional monitoring tools include sticky traps, pheromone lures, and glue traps which assist in determining current pest activity, the degree of infestation, and routes of entry. The Pest Management Technicians should communicate essentials of the monitoring plan with the occupants of the site to prevent mishandling of the traps, lures, or glueboards placed in the areas monitored.

The Pest Management Technician may use many monitoring tools to assess the level of pest infestation. Since some pests are elusive, monitoring tools may be in place for some time. These tools may capture the pest for counting (cockroach sticky traps) or merely note the presence of infestation (tracking powder). Some monitoring tools may attract pests from a long distance, so placement is very critical to avoid inviting more pests from outside the managed site. The monitoring methods provide data, over time, which are recorded and enable the Pest Management Technician to select the methods to achieve the desired level of management.

### a. Inspecting the Exterior

A complete inspection of the exterior and the interior of the site are essential to identify the degree of specific pest problems and to provide insight as to the reasons and origins of the problems.

Site inspections should begin with the exterior of the facility. Evidence of insect and rodent infestation, damage, poor sanitation and the presence of breeding and harborage areas in the exterior environment will often help to interpret pest findings within the structure.

Exterior inspection must include not only the immediate perimeter of the facility but must extend to take in the overall environmental conditions and how they relate to the facility. The overall environment inspection should include adjacent vacant lots, roofs, parking lots, refuse areas, drainage ditches and sewer lines, among other areas. Inspect and record structural problems including cracks, holes, excessive moisture, and other structural deficiencies that may lead to infestation. Landscape conditions including excess vegetation, debris, general sanitation, and landscape runoff should also be considered. Environmental conditions that affect pest management are noteworthy and include exposure to the wind, rain, and sunshine.

### b. Inspecting the Interior

Interior inspections require the complete inspection of all potential breeding and harborage areas. These areas include, but are not limited to, kitchens, receiving areas, dining rooms, storage areas, doors, classrooms, teacher lounges, computer rooms, refuse areas, ceilings, administration offices, locker rooms, custodial closets, heat ducts, ventilation systems, and elevator shafts. Obvious sources of breeding and harborage such as cracks, voids, crevices, debris, unrotated supplies, water leaks, spillage and sanitation problems, should be identified and recorded.

Evaluation involves the objective review and analysis of the information gained through the inspection, monitoring and identification process, as well as the subjective insight gained from past experience in dealing with similar pest situations.

## c. Landscape Monitoring

Monitoring is the most important part of the ornamental IPM program. Regular monitoring avails the pest manager to the information necessary to fully assess plant health and make rational pest management decisions. Basic information on the environmental factors, cultural conditions, and pest populations are required to accurately predict pest population development and the potential for damage to plant material. The use of biorational pesticides, other biological agents, and beneficial arthropods is fully dependent on these regular observations.

Detecting and evaluating the numerous factors that contribute to loss of plant health, function, and beauty requires a year long systematic approach to monitoring. These diverse factors may be classified as either cultural, environmental, or pest related. The effects of environmental factors and the cultural conditions on pest development are the major concern.

The first step in this monitoring system is the initial site visit and evaluation. This visit may be conducted at any time of the year, but a dormant season visit may be best. Dormant season visits allow the pest manager to carefully inspect the landscape and plant material during the time of the year when insect and plant life are less active. Plant inventories and landscape maps can be completed during this visit. Plant health status and most cultural conditions may also be evaluated.

Many pest problems can be observed during the dormant season. Observations made at this time may help determine potential pest problems that may occur during the growing season. Pest management strategies may often be planned in advance. For example, azaleas growing in sunny locations are highly susceptible to lace bug. Having determined this potential pest problem in advance, the pest manager can begin monitoring early for this pest and detect the first signs of activity.

Unacceptable levels of mite damage on evergreen plant material and scale insect populations observed during these visits may indicate the need for dormant oil applications. Unfavorable cultural conditions observed during these visits may be remedied before the growing season begins. These initial visits are essential during the beginning stages of the Integrated Pest Management implementation. After the program has been established, annual dormant season visits will suffice.

Monitoring programs should be flexible to take into account variable environmental and cultural conditions and differences between sites. The number of visits and the timing of visits should be determined by the plant material and existing or potential pest problems at individual sites. This type of flexibility may not always be practical, but should be followed as closely as possible. Keep in mind that it is better to make too many visits to a site than too few.

During the growing season, monitoring visits should be regular and frequent. Fewer than ten monitoring visits per season allows an unacceptable amount of time to pass between

visits. Pests with rapid reproductive capacities such as spider mites and lace bugs, may cause serious damage if not monitored frequently. The fewer the monitoring visits, the greater the margins for error, and any misdiagnoses or overlooked problems are likely to spread into serious conditions.

The monitoring season should begin at bud break for most plants and extend into fall until pest activity ceases. Monitoring may begin earlier if certain pests of conifers are present. If dormant oil applications are to be made, earlier visits may be necessary to determine the best time for these applications. Monitoring should continue until all pest activity has ended in late fall. Spider mites, lace bugs, and sawflies are active during cool autumn weather and will cause permanent damage to evergreen plants if they are not adequately managed during the fall months.

Integrated Pest Management programs rely on regular monitoring (also called scouting or inspecting) of the plants to be protected. The inspector should be knowledgeable in plant, insect, mite, and disease identification and control. In addition to the insect and mite pests, the inspector also should be able to identify predators and parasites that aid in pest management.

The suggested interval for monitoring landscape plants is every two weeks depending upon weather conditions. When inspectors find a pest population buildup, they must evaluate the problem. The following is a list of questions the inspector should consider when performing this evaluation:

- How many pests are present?
- How soon will this pest complete a generation and produce eggs for the next generation?
- How many more inspections are scheduled for this site before another generation is produced?
- Are predators or parasites present and will they be effective in controlling this infestation?
- How much damage can the plants tolerate and how much damage will the school community tolerate?
- Are there cultural or management practices that will reduce pest activity without pesticides?
- Are there effective pesticides labeled for use on the plant and can they be spot treated in a way that minimizes damage to beneficial organisms?

A detailed discussion of many of these questions can be found in several texts on the subjects of Integrated Pest Management and biological management.

The conscientious, knowledgeable Integrated Pest Management practitioner will learn how to evaluate many of these questions by making careful notes in a field log book about the appearance times of diseases, pests and beneficial organisms, as well as soil, temperature and moisture conditions. Careful observations also should be made and recorded regarding attempted management methods. After reviewing these notes for a

few seasons, the technician will begin to see that many problems and their solutions are relatively predictable. The use of a computer to store and analyze these data will facilitate the development of an Integrated Pest Management program.

## Appendix A

## PESTICIDE LAWS AND REGULATIONS

## REGULATORY REQUIREMENTS

State and federal laws and regulations control many aspects of the manufacture, sale, transportation, and use of pesticides.

At the federal level, the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) provides the basic regulatory framework governing pesticides. It was first enacted in 1947 and has been amended many times since. The original act required pesticides to be registered and labeled and provided for pesticide inspections. However, it did not regulate pesticide use, nor apply to pesticides manufactured and marketed solely in one state.

In 1972, Congress amended FIFRA to provide for a broader regulatory program, covering all pesticides used in the U.S. FIFRA now requires the U.S. Environmental Protection Agency (EPA) to determine whether a pesticide "will perform its intended function without causing unreasonable adverse effects on the environment or human health."

In California, laws regulating pesticide use and pest control are part of the California Code of Regulations (3 CCR, 6700-6146). The California Department of Food and Agriculture (CDFA) enforce these regulations. Appendix B contains specific requirements that pertain to the health and safety protection of District pest control personnel.

At the county level, agricultural commissioners develop pesticide use policies or conditions specific to the needs of their counties. However, these policies or conditions must be approved by CFDA before they can become effective.

In California, regulations regarding vermin in food establishments are part of the California Health and Safety Code, Section 27603. The Los Angeles County Department of Health Services, Environmental Health Section, enforces this regulation.

## Appendix B

## RESPONSIBILITIES OF GOVERNMENT AGENCIES

Table 1 summarizes the responsibilities of the CDFA, county agricultural commissioners, and other state and federal government agencies.

**TABLE 1:**

RESPONSIBILITIES OF GOVERNMENT AGENCIES IN CALIFORNIA'S PESTICIDE REGULATORY PROGRAM

| PROGRAM | RESPONSIBLE AGENCY |
|---|---|
| Registration of pesticides | US Environmental Protection Agency,<br>California Dept. of Pesticide Regulation |
| Classification of pesticides | US Environmental Protection Agency,<br>California Dept. of Pesticide Regulation |
| Permitting | County Agricultural Commissioner;<br>California Dept. of Food and Agriculture |
| Licensing of commercial applicators, advisers, pesticide application businesses, dealers and maintenance gardeners. | California Dept. of Food and Agriculture |
| Registering applicators and advisors, certifying private applicators | County Agricultural Commissioner |
| Regulations governing pesticide use and worker safety | County Agricultural Commissioner;<br>California Dept. of Food and Agriculture<br>California Dept. of Health Services |
| Pesticide illness investigation | County Agricultural Commissioner;<br>California Dept. of Food and Agriculture<br>California Dept. of Health Services |
| Pesticide disposal and storage | County Agricultural Commissioner;<br>California Dept. of Food and Agriculture<br>Calif. Dept. of Toxic Substances Control<br>California Water Resources Control Board |
| Protection of wildlife | County Agricultural Commissioner<br>California Dept. of Fish & Game<br>California Dept. of Food and Agriculture<br>US Fish and Wildlife Service<br>US Environmental Protection Agency |
| Citing or prosecuting violators | California Dept. of Food and Agriculture<br>County Agricultural Commissioner<br>Calif. Attorney General/District Attorney |
| Vermin control in food establishments | Los Angeles County Department of Health Services |

## Appendix C

## PESTICIDE REGISTRATION AND LABELING

Every pesticide product sold or used in California must be registered with the U.S. Environmental Protection Agency (EPA), as well as with the California Department of Pesticide Regulation (CDPR). The registration of pesticide products is necessary to provide for the proper and safe use of pesticides in protecting people and the environment from ineffective or detrimental chemicals.

1. Pesticide Registration

The registration procedure, at the federal level, begins with the manufacturer submitting to the EPA test data, an application to register the product, draft labeling and tolerance petition for food-use pesticides.

A general use pesticide is one that can be sold without permit and can be used by the general public. A restricted use pesticide is one that can only be sold to and used by qualified pesticide applicators or by persons holding a valid permit from a county agricultural commissioner.

Pesticides that are to be sold or used in California must also obtain registration from CDPR. Registration procedures require the applicant to submit proof of EPA registration and all data and studies in support of EPA registration. CDPR performs an independent review of these data and also considers other factors such as carcinogencity, wildlife toxicity, the analytical methods used to determine the materials presence and the availability of workable alternatives.
In addition to EPA restricted-use pesticides, the State of California designates certain EPA classified general-use pesticides as restricted-use pesticides due to local hazards or specific health problems. A permit from the county agricultural commissioner is required for all California restricted-use pesticides. However, certain use exemptions are allowed.

2. Pesticide Labeling

To complete registration, the manufacturer must supply a label meeting all federal and state requirements. Labels are legal documents that contain important information for the user. Labels may also refer to other documents, such as material safety data sheets that must be considered part of the label.

The following information is required by the EPA (40CFR Part 156) to be on a label.

**Brand Name**

The name the manufacturer has given to the product for all advertisement and promotion.

**Chemical Name**

Describes the chemical structure of a pesticide and is derived by chemists based on international rules for naming chemicals.

**Common Name**

Chemical names of active ingredients in a pesticide formulation are often complex. For clarity, most pesticides have been assigned official common, or generic, names. Common names and brand names are not the same and not all labels will list a common name for the pesticide.

**Formulation**

Pesticide labels always list the formulation type, such as emulsifiable concentrate, wettable powder, or soluble powder. Manufacturers may include this information as a suffix in the brand name of the pesticide. For example, in the name Princep 80W, the "W" indicates a wettable powder formulation.

**Ingredients**

Pesticide labels list the percentage of active and inert ingredients. Active ingredients are those components that have or synergize pesticidal activity. Inert ingredients are all components of the formulation that do not have pesticidal action. Inert ingredients can be toxic, flammable, or pose a safety or environmental hazard. If a pesticide contains more than one active ingredient, the percentage of each will be given, but all inert ingredients may be grouped together and not specified.

**Contents**

Labels list the net contents, by weight or liquid volume, contained within the package.

**Manufacturer**

Pesticide labels always contain the name and address of the manufacturer of the product. Use this address if you need to contact the manufacturer for any reason.

**Registration and Establishment Numbers**

The Environmental Protection Agency and the State of California assign numbers to each pesticide as it is registered. In addition, the EPA establishment number is a code, which identifies the site of manufacture or repackaging of a pesticide.

**Signal Word**

An important part of every label is the signal word. The word "Danger," accompanied by the word "Poison" and a skull and crossbones, or the word "Danger" used alone, indicates

that the pesticide is highly toxic or poses a dangerous health or environmental hazard (Toxicity Category I). "Warning" indicates moderate toxicity (Toxicity Category II) and "Caution" means low toxicity (Toxicity Category III). Part of the registration process assigns each pesticide to a toxicity category and prescribes which signal word must be used on the label.

**Precautionary Statements**

Precautionary statements are used to describe the hazards associated with a chemical. Instructions given in a precautionary statement should always be followed. Three areas of hazard may be included in the statements:

- Hazards to people and domestic animals: This section tells why the pesticide is hazardous, what adverse effects may occur, and describes the type of protective equipment that one must wear while handling packages, and mixing and applying the pesticide.
- Environmental hazards: Indicates if the pesticide is toxic to non-target organisms such as honeybees, fish, birds, or other wildlife. It may also contain information on how to avoid environmental contamination.
- Physical and chemical hazards: Describes special physical and chemical hazards associated with the pesticide such as risks of explosion if the chemical is exposed to sparks or hazards from fumes in the case of a fire.

**Statement of Practical Treatment**

The statement of practical treatment tells what to do in case of accidental exposure. It describes what emergency first aid measures to take when the pesticide contacts skin, splashes into eyes, or if dust or vapors have been inhaled. This section also tells when to seek medical attention.

**Statement of Use Classification**

Pesticides are classified by the EPA as either "General-Use" or "Restricted-Use," based on the potential of the pesticide to cause harm to people, animals, or the environment. EPA restricted-use pesticides have a special statement printed on the label in a prominent place. Pesticides that do no contain this statement are considered general-use pesticides, although special state restrictions may apply. This information can be found on the CDFA list of state restricted-use pesticides, available from the county agricultural commissioner. Labels may also have a restrictive statement indicating that they are for agricultural or commercial use only. A restrictive statement is different from a statement of use classification.

**Directions for Use**

The directions for use list all the target pests that the pesticide has been registered to control, plus the crops, plant species, animals, or other sites where the pesticide may be

used. The directions may also include special restrictions that must be observed. These instructions tell how to apply the pesticide, how much to use, where to use the material, and when it should be applied. It is a violation to use pesticides in a manner inconsistent with the label unless federal or state laws specify acceptable deviations from label instructions.

**Misuse Statement**

The misuse statement reminds users to apply pesticides according to label directions.

**Reentry Statement**

Sometimes restrictions apply to the time that must elapse before a person can enter an area treated with a pesticide. This reentry interval is included on the pesticide label or in state regulations. There may also be other state or local restrictions which apply. Reentry intervals may vary according to the toxicity and special hazards associated with the pesticide and the type of pest being treated and may even vary from county to county. If no reentry interval is given, the treated area can usually be entered once the spray dries or dust settles.

**Storage and Disposal Directions**

Directions for proper storage and disposal of the pesticide and empty pesticide containers are another important part of the label. Some pesticides have special requirements. Improper storage causes the pesticide to lose its effectiveness or may cause a safety hazard. Pesticides must always be stored out of the reach of children and animals in locked and posted areas. Proper disposal of unused pesticides and pesticide containers is essential to reduce human and environmental hazards. Federal, state, and local regulations control pesticide disposal.

**Warranty**

Manufacturers usually include a warranty and disclaimer on their pesticide labels. This information informs you of your rights as a purchaser and limits the liability of the manufacturer